

OCT 20 2006

Docket No.: 0941-0767P

Application No. 09/473,558
Amendment dated October 20, 2006
Reply to Office Action of July 20, 2006

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) An Ethernet switch comprising:
 - a plurality of network ports, for receiving or delivering network packets;
 - a first memory device, for storing the source address and associated messages of said network packets;
 - a second memory device, for storing the data of the network packets received by the network ports;
 - a first memory control device, connected to said first memory device, for controlling the read and write of said first memory device;
 - a second memory control device, connected to said second memory device, for controlling the read and write of said second memory device;
 - a switch device, connected to said ~~plural-plurality of~~ network ports and said first memory control device, for creating a source address and associated messages of said network ports, creating a destination address and associated messages of said network ~~port-ports~~ for said network packets in accordance with the contents of said first memory device, and managing the contents of said first memory device; and
 - a memory management device, connected to said ~~plural-plurality of~~ network ports and said second memory control device, for managing the contents of said second memory device.

2. (Currently Amended) The Ethernet switch of ~~Claim-claim~~ 1, wherein said network ports comprise a first network port and a second network port.

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3. (Currently Amended) The Ethernet switch of ~~Claim-claim~~ 1, wherein said network ports comprise media independent interfaces, for connecting to local area networks (LAN) of various specifications.

4. (Currently Amended) The Ethernet switch of ~~Claim-claim~~ 1, wherein said first network port and said second network port comprise media independent interfaces, for connecting to local area network (LAN) of various specifications.

5. (Currently Amended) The Ethernet switch of ~~Claim-claim~~ 1, wherein said switch device comprises an initiation module, for resetting the contents of said first memory device.

6. (Currently Amended) The Ethernet switch of ~~Claim-claim~~ 1, wherein said switch device comprises an aging module, for attenuating the expiry of the contents of said first memory device.

7. (Currently Amended) The Ethernet switch of ~~Claim-claim~~ 1, wherein said switch device comprises:

a packet switch routing learning module and a packet switch routing selecting module;

wherein, said packet switch routing learning module searches for the contents of said first memory device in accordance with the source address of said network packets, for creating or updating an index for recording the source addresses of said network packets and their links with said ~~plural-plurality of~~ network ports; and

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said packet switch routing selecting module searches for the contents of said first memory device in accordance with the destination addresses of said network packets, for obtaining said corresponding network ports, and for transporting or filtering said network packets.

8. (Currently Amended) The Ethernet switch of ~~Claim~~claim 1, wherein said switch device comprises packet switch processing arbitrating module, for arbitrating the network packet switch processing order of said network packets received from said ~~plural~~plurality of network ports.

9. (Currently Amended) A method of switching network packet for the Ethernet switch, with a plurality of network ports comprising:

providing a routing table made up of plural indices, for recording the source address of said network packet and the messages associated with said network ports;

providing a route learning device, responding to the source address of said packet and the content of said routing table, for creating a new index of said routing table or updating an index of said routing table; and

providing a route selecting device, responding to the destination address of said network packet and the content of said routing table, for determining the link between the destination of said packet and said network port; and

providing an arbitrating device for arbitrating route learning and selection processing order for said packet received from said plurality of network ports.

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10. (Currently Amended) The method of switching packet for the Ethernet switch of ~~Claim-claim~~ 9, further comprising:

providing a route resetting device, for resetting the content of said routing table.

11. (Currently Amended) The method of switching packet for the Ethernet switch of ~~Claim-claim~~ 9, further comprising:

providing a routing table index expiry attenuating device, for attenuating the content of said routing table.

12. (Cancelled)

13. (Currently Amended) The method of switching packet for the Ethernet switch of ~~Claim-claim~~ 9, further comprising:

providing an age index, a source port number, an address flag, and an ID pattern in said index.

14. (Currently Amended) The method of switching packet for the Ethernet switch of ~~Claim-claim~~ 9, wherein said route learning device performs the following steps upon creating an index of said routing table or updating an index of said routing table:

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a) set a address flag as the first address flag, set a search index address as the first index address, set an ID pattern as the first ID pattern, set the source network port as the first network port, and set an effective age index range as the first age index range;

b) read said index in accordance with the first index address on said routing table;

c) compare the age index of said index to determine whether it is within the range of the first age index;

d) compare the source network port number, address flag, and ID pattern of said index, to determine whether they are identical to the first network port, the first address flag, and the first ID pattern; and

e) determine the source port number of said index and its relation with the source address of said network packet, in response to the outcomes of steps (c) and (d).

15. (Currently Amended) The method of switching packet for the Ethernet switch of ~~Claim~~claim 9, wherein said route selecting device performs the following steps upon determining the link between the destination of said packet and said network port:

a) set a address flag as the second address flag, set a search index address as the second index address, set an ID pattern as the second ID pattern, set the source network port as the second network port, and set an effective age index range as the second age index range;

b) read said index in accordance with the second index address on said routing table;

c) compare the age index of said index to determine whether it is within the range of the second age index;

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d) compare the source network port number, address flag, and ID pattern of said index, to determine whether they are identical to the second network port, the second address flag, and the second ID pattern; and

e) determine the source port number of said index and its relation with the destination address of said network pattern, in response to the outcomes of steps (c) and (d).